CHAPTER TWO: PLANNING DEFINED

"We should all be concerned about the future because we will have to spend the rest of our lives there." Charles F. Kettering (1876-1958) American engineer and inventor.

INTRODUCTION

Planning is a creative process. Like many creative processes, it can tend to be unstructured and ad hoc, at times bordering on chaotic. It requires unequal measures of experience, analysis, intuition, and inspiration. There are many ways to add structure to this process. The one used by the Corps has been promulgated by the Federal government in the Principles and Guidelines. Inasmuch as this planning process has been adopted by the Corps, it is referred to simply as the Corps' planning process throughout this manual. It provides a flexible, systematic, rational framework from which planners can work and to which they can return when chaos threatens. It provides general guidance on how to proceed and a logical means of describing the thought processes that might otherwise remain opaque to others. This chapter offers several definitions of planning, then introduces the Corps' planning framework. That framework is described at length in subsequent chapters.

Three questions are the focus of this chapter. The chapter begins by answering the question, "what is planning"? It then answers the "how is it done" question with an overview of the Corps' planning process and a brief look at some types of planning and planners. It next turns to the question, "where do plans come from?" by introducing some basic notions of plan formulation, a significant step in the planning process.

P&G and the Corps

Over the Nation's first two centuries U.S. water resource development policy has evolved to what it is now. Currently, and since 1983, the principles, standards, and procedures that guide water resource development at the national level are articulated in the Principles and Guidelines. The P&G were "...developed to guide the formulation and evaluation studies of the major water resource development agencies." In prior years, each water resource development agency had developed its own formulation and evaluation procedures. The P&G is the most recent effort to standardize these practices.

Consequently, to characterize the P&G's six-step planning process as the Corps' planning process could be misleading. It is indeed the Corps' process in that it is the process the Corps follows. However, it was neither developed by the Corps nor restricted to the Corps' use. Other agencies use the P&G's planning process to varying extents.

WHAT IS PLANNING?

What is planning? That seems a simple enough starting point for our discussion, but *a review of the literature reveals a wide range of opinion and very little consensus on what planning is.*[1] The following paragraphs offer several definitions of planning. They are summarized in Table 1.

Table 1: Planning Defined

- Basic human activity
- Rational choice
- Control of future action
- Special kind of problem solving
- What planners do

Though we'll offer a working definition, it is not important that you agree. Pick the definition that most appeals to you. It is far more important to have a sense of the big picture of what planning is about than that you agree with any one of the definitions offered here.

PLANNING AS A BASIC HUMAN ACTIVITY

Some see planning as a basic human activity that pervades our behavior at every level of society. In this view, planning is a process of human thought followed by action based upon that thought. This makes planning a very general human activity.

You plan what to wear to work, the route to take to the office and what to have for lunch. This makes planning very ordinary. At the same time, it does not preclude the notion of expertise. Many people run. Few of them devote themselves to running to the point they become Olympic athletes. Likewise, though everyone plans, few do it as well as the professional planners.

...important to have a sense of the big picture of what planning is about...

If planning pervades human activity then surely it pervades the development and use of water and related land resources and the performance of the Corps' various missions. We, as a society, think about water resources, then take actions based on those thoughts. These activities are complex enough, however, to require the services of experts.

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[1] The material in this section is adapted largely from Ernest R. Alexander's article, "Planning Theory," found in *Introduction to Urban Planning* edited by Anthony J. Catanese and James C. Snyder.

PLANNING AS RATIONAL CHOICE

This view of planning is confined to matters of deliberate choice. It emphasizes the link between planning and rationality. *Planning thus becomes a process for determining appropriate future actions through a sequence of choices. It is a structured rational approach to achieving desired ends.*

As subsequent chapters will reveal, water resources planning is nothing if it is not a rational decision-making process. The rationality of the six-step planning process used by Corps planners is undeniable.

PLANNING AS CONTROL OF FUTURE CONSEQUENCES

Planning may be seen as an attempt to control future consequences through present actions. This view fuses planning and action together, for if we do not implement a plan, there can be no control exerted over the future. Some would measure the success of planning by the future consequences we are able to control.

The Corps' planning framework relies extensively on the consideration of future consequences. The comparison of future scenarios without and with a project in place is central to the Corps' planning process.

PLANNING AS A SPECIAL KIND OF PROBLEM SOLVING

Another line of thought is that planning is problem solving that is aimed at very particular kinds of problems. Planning theorists have defined the problems they deal with as **"wicked" problems**. *A wicked problem is one with no clear answers; solutions are only better or worse.* The data available to solve these problems are usually messy. There are no rules for approaching wicked problems and no clear tests to formulate or judge their solutions. *Water resource problems are always wicked problems, as are most of the planning problems the Corps faces.*

PLANNING IS WHAT PLANNERS DO

Planners help decision-makers identify their problems, conceive solutions to them, and compare the importance of the inevitable conflicting values inherent in any solution. This is a simple and intuitive definition with which many Corps planners can identify. The job is unique; and it differs so from day-to-day that it defies a more precise definition.

The definitions offered here are not mutually exclusive. They are overlapping and somewhat imprecise, but taken together they provide a fairly reasonable picture of what planning is. To further sharpen that picture, let's consider what planning is not.

WHAT PLANNING IS NOT

Though brief, this review of what planning is makes several points clear. First, there is no consensus on what planning is. Second, it is easy to see the

Plan

"Plan" is both a noun and a verb:

". . . n. 1. Any detailed scheme, program, or method worked out beforehand for the accomplishment of an objective . . ."

". . . v. 1. To formulate a scheme or program for the accomplishment or attainment of . . ."

This manual focuses on the verb rather than the noun.

elements of what the Corps planner does in each of the definitions. It may be helpful at this point to consider a few things that planning is not.

The little "p" planning used in this manual is not the same as Planning Division. Planning Division does little "p" planning but it also does big "P" Planning. Big "P" Planning entails a great deal more than does little "p" planning. This manual is concerned with little "p" planning, no matter who does it or where it is done. The planning process is not the same as the report review process, the budget process, or any of the many regulatory review and consultation processes. These processes are important to successful planning; but they are not substitutes for it.

Planning is not report writing or the technical work done by experts working on a planning study. Good story telling is essential - Chapter Fourteen is devoted to it - but it only describes how, what, and why you planned. Planning requires sound scientific and engineering input from many disciplines, but the science is only part of the story. Great hydrology, great economics, great biology, or great anything alone is not planning. Great planning weaves these inputs into a successful solution.

Planning is not a purely individual activity. It is done by individuals in a team environment intended to affect groups of people. While there may be personal planning, that is not the concern of this manual. Additionally, *planning is not present oriented*. Planning is primarily concerned with the future. Future actions and their consequences involve substantial uncertainty.

Planning is…the deliberate social or organizational activity of developing an optimal strategy for solving problems and achieving a desired set of goals.

Planning cannot be routinized. Problems that are unique can be approached with existing solutions or problem-solving algorithms, such as standard operating procedures, rules, or programs. These problems, however, are not the wicked problems that planners confront. Let this serve as fair warning to the reader; there will be no standard operating procedures for planning found in this manual!

Planning is not a trial-and-error process. It is not experimental. It is a focused, thoughtful, and rational process. The plans themselves may involve feedback loops, monitoring, evaluation, and adjustment. Such adaptive management is a concept the Corps encourages for ecosystem restoration plans. The point is that *while it may be reasonable for the plans themselves to be experimental, the planning process should never be.*

Neither is planning just the imagining of desirable futures. While specifying objectives and creating alternative plans to achieve them are extremely important parts of the planning process, they are not sufficient for planning. *Planning is more than utopian thinking. The intention to implement plans and the power to do so are essential elements of planning.* Planning is not done for planning's sake. Do not confuse the planning process with the report writing or the review process. Planning goes well beyond completing a report.

If planning is not an individual action, not routinized, not trial-and-error, not academic or utopian, then what is planning? Planning is societal, future-oriented, non-routinized, deliberate, and action oriented. *Planning is here defined as the deliberate social or organizational activity of developing an optimal strategy for solving problems and achieving a desired set of objectives.*

HOW IS PLANNING DONE?

Planning is done by people. It's done in a sequential, multi-staged process in which many of the stages are linked to their predecessors by feedback loops. It can be done in an hour, a day, a week, or a year. Conclusions reached at a later stage of the planning process may lead to revisions of an earlier stage or another iteration of the entire process. The specific sequence and stages of a planning process vary with the type of planning and the institutional setting in which the planning is done. Generalizations about how planning is done are reflected in the two planning models that follow. The first is a generic model of the planning process, the second introduces the planning model used by the U.S. Army Corps of Engineers in its Civil Works activities.

A GENERIC PLANNING MODEL

There is no such thing as "the" **planning model**. Planning models abound in the literature. Sometime in your education, way back in elementary school, you probably encountered the "**scientific method**." It told you how to learn things. You observe a condition and form a hypothesis. You test your hypothesis in an experiment and compare the results to your hypothesis. You either confirm your hypothesis or repeat the process with a revised hypothesis. It was probably your first step-by-step, iterative, problem-solving process. Well, that same time-tested method has been dressed up, modified, and recycled as a planning process. The major components in Table 2 can be found in most of the planning models in general use.

Table 2: Two Planning Models

Generic Model	Corps Model
1. Problem diagnosis	1. Identify problems & opportunities
2. Goal articulation	2. Inventory & forecast resources
3. Prediction and projections	3. Formulate alternative plans
4. Alternative development	4. Evaluate plan effects
5. Feasibility analysis	5. Compare effects of alternative plans
6. Evaluation	6. Select best plan
7. Implementation	

Planning often begins with some notion that we are dissatisfied with the status quo. If there is no problem, there is no reason for plans or actions. Diagnosis of the problem requires an image of a desired state.

Goals relate to problem definitions. Translating vague, incoherent or conflicting goals into operational objectives is one of the toughest jobs a planner faces.

Solving problems and achieving goals always involves moving from where we are now to some different place in the future. Prediction is essential for evaluating and selecting alternatives and for moving to future places. We need to make some guesses about the future to formulate and evaluate plans.

The development of alternative plans has a profound effect on the quality of the final decision. As Lichfield [2] has said:

> "The ability of an evaluation exercise to demonstrate the comparative merits of possible courses of action is limited, ultimately, by the quality of the plans put forward for assessment. A "good" plan cannot be chosen from a "poor" set of alternatives."

Where do alternatives come from? They must be generated by people from some mix of experience, analysis, inspiration, and creative invention.

Feasibility analysis asks, can the alternatives be done given known constraints and available resources? Evaluation begins when planners have a number of alternatives they know can be implemented. Which alternative do you like most? What does it do for you? The answers to these questions depend on the evaluation criteria you use: benefit-cost analysis, cost-effectiveness, environmental quality, other social effects, program output indices, and so on.

...alternatives...must be generated by people from some mix of experience, analysis, inspiration, and creative invention.

Implementable plans seem to require a strong political commitment, though that is not a sufficient condition. Plans that can be implemented within existing organizational frameworks are more likely to succeed than complex plans that require new institutional structures and relationships.

There are any number of ways to include these basic tasks in a planning process. The Corps of Engineers' planning process

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[2] Lichfield, Nathaniel, Peter Kettle, and Michael Whitebread. *Evaluation in the Planning Process.* Oxford: Pergamon, 1973, p. 13.

is but one of many possible planning models. It is one of obvious interest here, however, for it is the focus of this manual.

THE CORPS' PLANNING MODEL

The direct correspondence of the generic planning model with the Corps' six-step planning process is also shown in Table 2. The language used in the generic model differs somewhat; however, the elements of the steps indicate a clear correspondence in concept and theory. The two models together show the Corps' planning process is consistent with good planning theory.

Though the Corps' process is presented as if it is a simple sequence of six rational steps, it is not that easy. No clean lines can be drawn among the steps in the Corps' planning process. Problem definition, goal setting, devising alternative solutions, etc. are more simultaneous activities that wax and wane throughout the process with the relative importance of each step varying from time-to-time, often in an unpredictable manner. The steps do, however, suggest that the emphasis in the planning process will occasionally change to one of these activities as shown in Figure 2.

In the beginning, the emphasis will be on step one, identification of problems and opportunities, even though work may be proceeding on the other steps. There may even be several iterations or passes through the steps in which step one is emphasized. But, in time, the emphasis will shift to step two, as the second large rectangle indicates. At this stage in the planning study there may again be one or more iterations through the various steps but the emphasis is clearly focused on the second step. This process of iterating through the steps continues with a continually shifting emphasis on the next step.

The steps are presented in a linear fashion in the P&G, but the planning process is anything but linear. At times it borders on chaotic. But always it comes back to the order imposed by the rational framework present in the steps. There is a chapter on each of these steps later in the manual. For now, we simply list the steps. It is easy to see the relationship of the Corps' specific model to the generic planning model. The generic steps have in essence been restated in a water resources context.

…the planning process is anything but linear.

The six-step planning process is described in the P&G as follows:

1) *Specification of the water and related land resource problems and opportunities (relevant to the planning*

setting) associated with the Federal objective and specific State and local concerns.

2) *Inventory, forecast, and analysis of water and related land resource conditions within the planning area relevant to the identified problems and opportunities.*

3) *Formulation of alternative plans.*

4) *Evaluation of the effects of the alternative plans.*

5) *Comparison of alternative plans.*

6) *Selection of a recommended plan based upon the comparison of alternative plans.*[3]

This process makes use of several tools, including criteria, goals, objectives, constraints, solutions, and effects. The success of the process depends on the involvement of the right people at the right time; in other words, interdisciplinary planning and public involvement. These tools will be highlighted throughout the discussions of the planning process that follow.

EXAMPLES OF PLANNING IN THE CORPS

On the verge of the 21st century, in a world of changing missions and tight budgets, planning is needed more than ever. At the highest levels of the organization where the future of the agency and new missions are discussed there is a role for planning. The need for planning pervades the functional levels of the Corps as suggested in Table 3.

[3] Section III paragraph 1.3.2(a) of *Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies.*

Figure 2: Corps' Planning Process

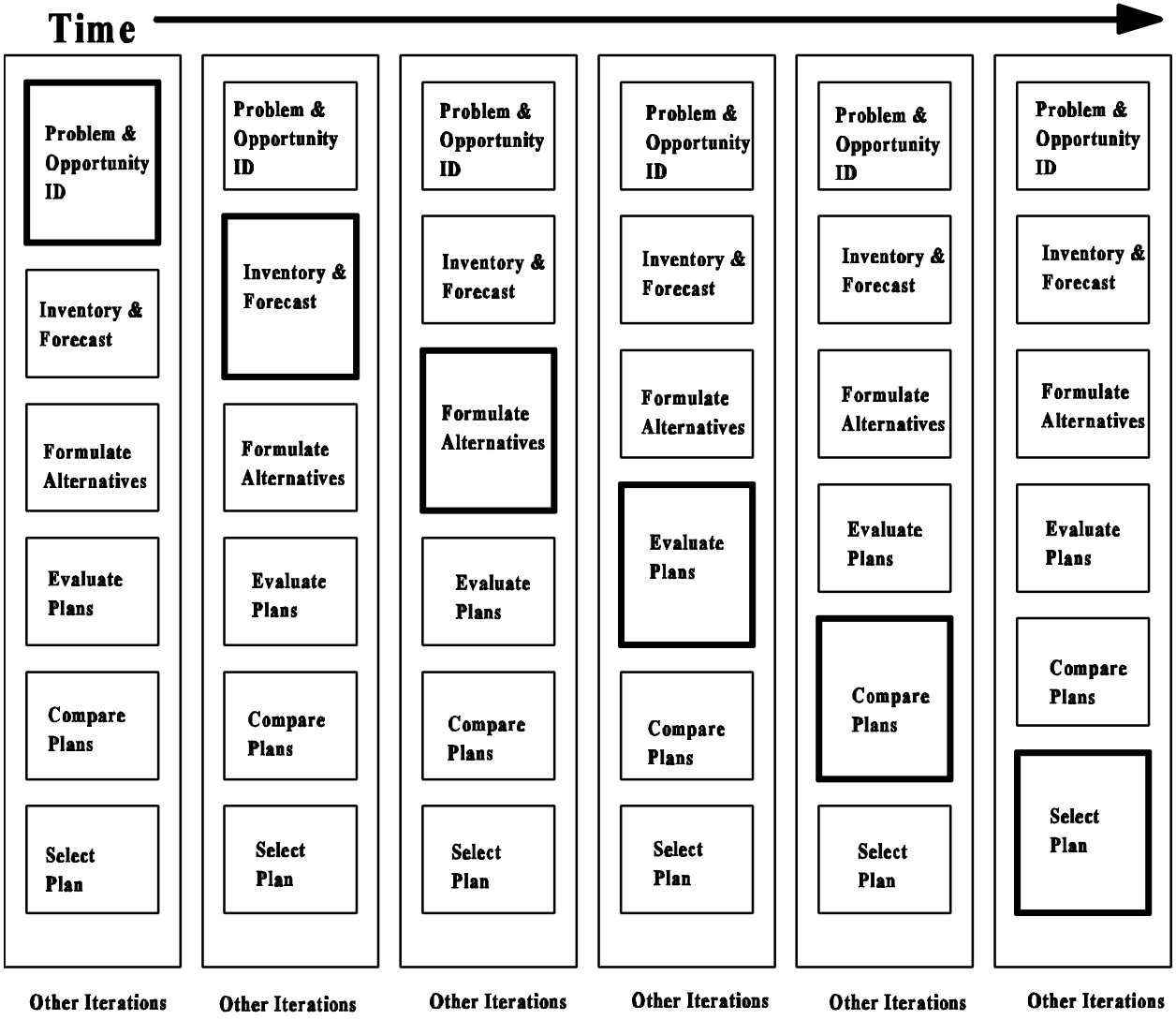


Table 3: Planning in the Corps

Water resources development planning
- flood and storm damage reduction
- ecosystem restoration
- navigation

Watershed planning
Planning assistance to states
Operations and maintenance planning
- major rehabilitation
- maintenance dredging
- master planning

Regulatory permits planning
- special area management plans
- mitigation banking planning

Environmental infrastructure planning
Drought preparation planning
Military planning
- master planning
- military construction planning
- logistics
- project validation assessment
- mobilization planning

Restoration planning
- formerly used defense sites planning
- installation restoration program planning

Support for others planning
Strategic planning

Operations and maintenance personnel are forced by tight budgets to plan their O&M work. Construction operations personnel must choose from among options to correct design deficiencies and compare them to continued maintenance, choosing the option that best meets public and agency needs. Military construction branches are formulating alternatives and recommending the best course of action. Resource management personnel evaluate and compare options for getting the Corps' essential support work done.

Planning is problem solving and there is no shortage of problems. *Planning offers a structured, rational approach to solving problems of all types.* If planning can improve agency performance through problem solving and informed, rational decision-making, it is essential to accomplish the agency's missions.

The bread and butter of Corps planning has been the traditional civil works **water resources development planning**. Such Corps planning currently is:

- Authority based, relying on various public laws and Congressional

Committee resolutions to provide the authority to study and implement projects. This includes the Corps' Continuing Authorities Program.

- Phased, with an initial 100% Federally financed, 6-12 month reconnaissance study, followed by a feasibility study that is 50/50 cost shared with a non-Federal sponsor and targeted for completion in three years.

- Oriented toward the Federal objective of national economic development consistent with protecting the nation's environment. Planning in other Corps programs may be directed at other national goals.

- Oriented toward specific types of water-related problems and opportunities. Today's water resources program focuses on flood and storm damage reduction, commercial navigation, and ecosystem restoration as priority outputs. Table 4 lists historic project purposes.

Table 4: Types of Project Purposes

- Navigation
- Flood damage reduction
- Shore protection
- Hydroelectric power
- Recreation
- Water supply
- Fish & Wildlife enhancement
- Ecosystem restoration

The Corps' expanded environmental mission has brought about something of a revived interest in **watershed planning**. Watershed planning resembles the basin level planning studies of the past.

Section 22 of Public Law 93-251 authorized the Corps to cooperate with the states and Native American Tribes in the preparation of comprehensive plans for the development, utilization and conservation of the water and related land resources of drainage basins located within

the boundaries of the state. This program is often called "Planning Assistance to States."

Several **drought preparation study** (DPS) prototypes were conducted as part of the recent National Drought Study. Such studies recommend actions to be taken by government and community in advance for the purpose of preparing for the occurrence of droughts, coordinating a proper response to drought, managing water supply and water use during drought, and otherwise mitigating the effects of the impacts associated with droughts.

In 1982, the Operation and Maintenance, General, portion of the Corps' budget exceeded $1 billion for the first time. By 1985, the O&M portion of the budget exceeded Construction, General, for the first time. Little "p" planning is becoming increasingly important as this function grows ever larger and more complex. Dredged material placement plans, beneficial uses of dredged material, project master planning, and major rehabilitations are some examples of O&M functions in which planning is already used.

Table 5: Examples of Other Planning Functions

- Master planning
- Military construction
- Mobilization planning
- Logistics planning
- Disaster preparedness & emergency response
- Operations & maintenance budgeting
- Facilities management
- Formerly used defense sites
- Installation restoration program
- Work for others
- Strategic planning
- Special studies

While water resources related planning remains the bread and butter of most Corps' planning, other Corps missions can and do benefit from good planning, as Table 5 indicates. The Corps has a substantial military program. In the 1980s, planners became actively involved in **mobilization master planning**. More generic **master planning** is basically the development of long-term plans for the optimal usage of lands and facilities at reservoirs and military installations. Military installation master planning might involve housing, office space, production and research facilities, health care, signage, and infrastructure including water, sewage, street lighting, roads, energy, and the like. In other words, it includes anything and everything needed to make the installation effective and efficient in performing its missions.

What's a Continuing Authority?

Once all Corps projects required a specific act of Congress to authorize their construction. In other words, if Congress did not specifically mention its desire to construct a project in a piece of legislation the project would not be built. Typically, all projects were bundled together into an **omnibus bill** that included all water resource development projects. Initially, flood damage reduction projects were included in **Flood Control Acts** and navigation projects in **Rivers and Harbors Acts**. The current omnibus acts are called **Water Resource Development Acts** (also known as WRDA, pronounced "word-uh").

Congress has decided to give the Secretary of the Army the authority to approve and construct certain size and type projects. This can be done on a continuing basis. Thus, we have the so-called **continuing authority programs** (CAP). Congress establishes the type of projects that can be built without specific Congressional authorization in the language that creates the authority. These authorities are generally found in one of the omnibus acts. The Federal cost share of the projects is established by dollar limits periodically set by Congress. The programs include the following:

- Section 14: Emergency Streambank & Shoreline Erosion
- Section 103: Beach Erosion Control
- Section 107: Navigation
- Section 111: Mitigation of Shore Damage
- Section 204: Beneficial Uses of Dredged Material
- Section 205: Flood Damage Reduction
- Section 206: Aquatic Ecosystem Restoration
- Section 208: Snagging & Clearing (Flood)
- Section 1135: Environmental Improvement

The number of projects constructed is established through the joint interaction of Congress and the Administration in the budget process. Each continuing authority program has a separate authorization, spending limit, and budget. See ER 1105-2-100, Chapter Three for more information.

Planning has also been used to assist the **military construction projects** program. In these projects a few objectives are established,

an estimate of the cost of accomplishing these objectives under a status quo situation is prepared, then one or more alternative ways of accomplishing the objectives are formulated and costed out for the purpose of identifying the best option for attaining the objectives.

This type of planning has been done for child care facilities, family housing, barracks, communications centers, wastewater treatment, training facilities, research facilities, parking garages, laundry facilities, and many other functions and facilities. A variation of this type of planning is the **project validation assessment**. This is a planning process used to obtain funding for projects that have not been appropriated funds. It usually entails a cashflow or pay-back analysis.

Logistics planning is another area in which planning has made significant contributions. Moving materials and people in the most effective manner that meets the objectives of the move is a natural for planning. Planners have been involved with the **military traffic management command** to help plan movements of Army Reserve and National Guard units at a number of locations throughout the country.

Corps offices are occasionally asked to become involved in planning efforts that do not fit neatly into any of the above categories. **Special studies** are
authorized by Congress from time-to-time. **Support for others** planning involves work for other Federal agencies. This has included planning for embassies, wastewater treatment facilities, prisons, roads, and other infrastructure. In addition to these special studies, strategic planning has become more widely used by Corps offices. **Strategic planning** highlights the significance of devoting more attention to analyzing operating environments and formulating strategies that relate directly to environmental conditions. The ultimate purpose of strategic planning is to help the organization, be it the agency, a district, or an

Environmental Planning

"**Environmental planning,**" though an expanding Corps mission, is nothing new. In fact, a case could be made that the Corps has always been involved in environmental planning, it's just that the desired adjustments to the environment have evolved and changed over time.

There are different types of planning activities Corps planners do that relate to the environment. First, there is the **evaluation of environmental effects** of alternative plans. This is sometimes referred to as **environmental impact assessment**. Environmental impact assessment became a formal necessity for the Corps with the promulgation of the Council on Environmental Quality regulations following the passage of the National Environmental Policy Act (NEPA) in 1969. Under NEPA, the environmental assessment (EA) may lead to a finding of no significant impact (FONSI) or an environmental impact statement (EIS). This type of environmental planning has been done for over two decades and the methods are well defined and well executed.

The Corps has also done extensive planning for environmental **mitigation**. Section 661 of the Fish and Wildlife Coordination Act of 1958 provided that **fish and wildlife conservation** receive equal consideration with other project purposes. Section 906(a) of WRDA 1986 authorized mitigation of unavoidable damages to fish and wildlife that result from construction of a project.

Finally, ecosystem restoration is now a priority output for the Corps. Restoration of degraded ecosystem structure, function, and dynamic processes represents a new challenge for Corps planners. For example, Section 1135 of WRDA 1986 makes **restoration** of fish and wildlife habitat possible and it authorizes the Secretary of the Army to modify Corps projects for the purpose of improving the quality of the environment in the public interest.

Although there are environmental planning objectives and new environmental programs and authorities, the simple truth is that planning for and about these values is exactly the same planning process described in this manual. The only difference is a focus on nonmonetary outputs rather than the traditional economic outputs.

office, to increase performance through improved effectiveness, efficiency, and flexibility.

The important point to make here is that *no matter whether the planning responsibility is in water resources or other areas, whether it is formal or informal, the Corps' six-step planning process is equally applicable.* It is a robust, rational planning framework that is sufficiently flexible for any and all types of planning encountered by Corps personnel. That is not to suggest that it is or should be pursued with equal resources, detail, or rigor in every situation. As mentioned

…the entire planning process can be completed in an hour, a day, a week, a month, a year, or a decade.

earlier, the entire planning process can be completed in an hour, a day, a week, a month, a year or a decade. The level of detail and quality of the results can be expected to vary with the time and resources devoted to planning. But, no matter what the time frame, it is inevitable that a planning decision made based on a planning process is going to be better than a decision made without one. Budgets, schedules, the significance of the work, knowledge of the planning process and other factors will dictate the extent to which a structured planning process is pursued. The basic approach to problem solving embodied in these steps is, however, sound and proven and can be used in all planning situations.

Planning can contribute to agency performance wherever problems are encountered. When those problems are wicked, planning is indispensable.

TYPES OF PLANNING AND PLANNERS

Planning is best done by planners. In this section, we consider some of the planning specialties and who planners are.

GENERIC TYPES OF PLANNING

The present-day planning profession has emerged in response to the growth, changing values and critical problems of 20th century urban development. Though planning theory may have developed around the needs of cities, there are many different types of planning, water resources development planning and military master planning being but two examples.

Table 6: Selected Planning Specialities

- Land Use Planning
- Policy Planning & Management
- Transportation Planning
- Housing & Community Development Planning
- Human Services Planning
- Historic Preservation Planning
- Economic & Resource Development Planning
- Environmental Policies Planning
- International Development Planning
- Urban Design and Physical Planning
- Computers in Planning

Source: Association of Collegiate Schools of Planning

Based on the variety of definitions of planning offered above, we are able to identify a rather lengthy list of different planning specialties. Table 6 shows the areas of specialty recognized by the Association of Collegiate Schools of Planning. Interestingly, the typical Corps planner may find herself involved in

A Planner's Best Friends

- The newspaper(s) and telephone book(s) that cover the area under study.
- The alphabet and chronology; two organizing tools that just about everyone understands and can agree to.
- Lists of everything and anything, such as telephone numbers, reasons why Plan 7 won't work, what to talk about at the next team meeting, etc.
- Questions, particularly: "Why?", "How do you know that?", "Who cares?", and "What will happen if we don't?"
- The abilities to tell the story (spoken and written), and to listen.

virtually all of these specialty areas at one time or another.

PLANNERS

Within the Corps, you will find planners and other people who plan. *A* **planner** *is "a generalist with a specialty."* Planning requires men and women with knowledge, imagination, and skills, and a commitment to critically examine and act on objectives concerned with the improvement of the human condition. Planners must respond to complex and interrelated processes of social, economic, cultural, environmental and political change at every scale from the local to the global. Their specialized expertise derives from their ability to relate scientific and technical knowledge to action in the public domain. No one discipline prepares a person to be a planner. *Planning is intrinsically an interdisciplinary process.*

The skills of a planner, which should be considered "in addition to" their specialty skill, are shown in Table 7. The skills, ranked in order based on a somewhat dated (1976) survey of Massachusetts Institute of Technology planning graduates might show a different order today (computer skills would surely rank higher and more communication skills would be prominently ranked), but the array of skills is still relevant.

Planners come from many backgrounds, including urban studies, environmental studies, architecture, political science, engineering, economics, sociology, law, the natural sciences, management, geography, and public administration among others. The Corps' study team would reflect this same mix of skills, adding some

particularly useful in water resources problems. Chapter Thirteen discusses the planning team in more detail.

In addition to planners there are the other people who plan. These are the specialists who may not recognize the work they do as planning. They may be found in operations and maintenance, engineering, or construction divisions, the front office or virtually anywhere else in the organization. Helping other people who plan to do their job better is one of the greatest values of the Corps' planning process.

Table 7: Planner's Skills

- Writing
- Synthesis
- Interaction
- Consulting
- Research Design
- Community Organizing
- Information Retrieval
- Environmental Analysis
- Data Analysis
- Teaching
- Original Information Getting
- Management
- Economic Analysis
- Spatial Design
- Evaluation
- Site Planning
- Computer Skills
- Operations Research
- Recording

WHERE DO PLANS COME FROM?

Where do plans come from? They come from people. There comes a time in every planning model when **alternatives** are designed to address the problems that motivated the planning process in the first place. *Alternatives are solutions to problems that contribute to stated planning objectives.* In the Corps' planning process the emphasis shifts to identifying and designing alternatives that solve a problem in step three, **plan formulation**. Thus, plans emerge from the plan formulation process, a subject addressed at length in Chapter Eight. For now, we content ourselves with the "big picture" and how this formulation activity fits into it.

Yes, There Really Are "Planners"

Planners have been called generalists with a specialty. Planners are often civil engineers, architects, or from other professional disciplines. But some people are truly "planners" and their specialty is planning.

- There are about 90 graduate and post-graduate university planning programs in the United States.
- Most planners work in government agencies. Some are consultants, and some are academics.
- Many planners work for local governments. Common products in local planning are comprehensive plans, zoning regulations, and subdivision regulations.
- The Federal government's personnel series GS-0020 Community Planner recognizes the unique specialty of planners.
- The American Planning Association is the nation's largest professional society for planners.

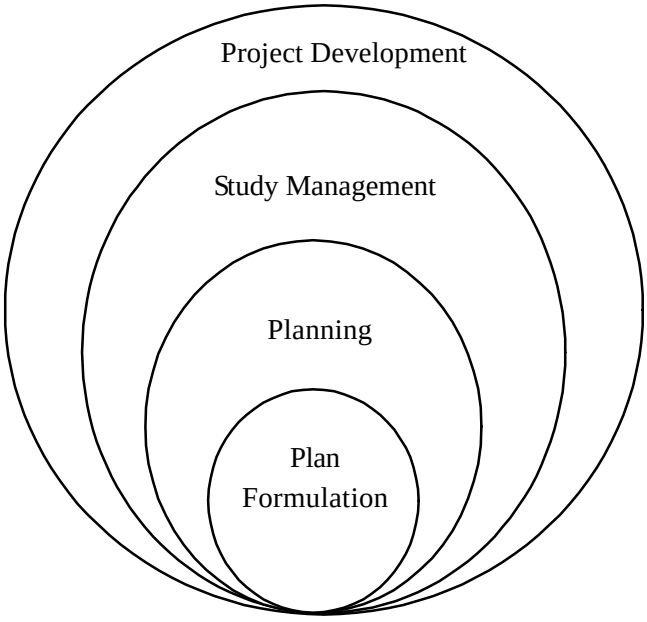
PROJECT DEVELOPMENT AND PLANNING

It's fair to say that not everything Corps planners do during the course of a day can be called plan formulation or even planning. Thus, we find it necessary to invent terminology that makes distinctions among the types of work Corps planners do. Their *work can be considered one of four different types:* **project development**, **study management**, **planning**, *and* **plan formulation**. The relationship of these tasks to one another is shown in Figure 3. The two larger tasks are part of what we call big "P" Planning, practiced more in Project Management and Planning offices. The last two tasks are little "p" planning that can be done anywhere in the organization.

Project Development Process

Planning and plan formulation can be separated from the milieu in which they take place. To facilitate that distinction, we define the most inclusive concept to be *project development*, i.e., *all the activities from initiation of a study through construction*. This is done to allow the separation of the planning process from implementation activities as well as from the institutional setting in which planning is done.

Figure 3: Relational Terminology



The Corps' way of doing business has evolved over time. This "way" includes the financial, administrative, organizational and management styles; the requirements of the agency; and the multitude of institutional relationships they have developed. Some of this culture is clearly related to the planning process. Other tasks may be necessary to the planning process, but they are not part of it.

Study Management

This subset of project development includes all the planning process tasks plus activities that include study management. *Study management activities include* the activities that support the planning process that may not be directly involved with the problem solving aspects of planning. These activities include: *contracting; budget work; inter-agency transfers of funds and personnel; other personnel issues; report preparation, printing, and distribution; shepherding the report through the review process; and so on.*

Planning

Planning, of course, comprises all the work associated with the six-step planning process. More details on this are provided in subsequent chapters.

Plan Formulation

This is the point in the planning process "where plans come from." How that bit of magic happens is considered at greater length in Chapter Eight.

Study Levels

Sometimes you need a lot of information to make a decision and other times you only need a little. There are different levels of detail required for different decisions. We gather less information when buying a candy bar than when we buy a car. The consequences of the decision are substantially different.

Just as the Corps has different project purposes and different types of reports, there are different levels of studies. Since the Water Resources Development Act of 1986 there have been **reconnaissance** and **feasibility** studies. The feasibility study is the more detailed of the two. In reconnaissance efforts there may be less detail or emphasis at some points in the planning process than there would be in a feasibility study, but the differences are of degree, not in approach. The Corps' six-step planning process can be used for all types of planning studies at all

SUMMARY AND LOOK FORWARD

Lesson One. Planning is what Corps planners do. There is a process, a set of steps, a way to do planning.

Lesson Two. There is no single "right" process but some steps are universal among all processes.

Lesson Three. The Corps uses a six-step planning process.

Little "p" planning has been defined here as the deliberate social or organizational activity of developing an optimal strategy for solving problems and achieving a desired set of objectives. It will take the remainder of this manual to detail some of the nuances of this process. That detailing begins in the next chapter with brief histories of water resources development in the United States and the evaluation of water resources planning by the U.S. Army Corps of Engineers.

SUGGESTIONS FOR FURTHER READING

For a nice introduction to planning theory we suggest *Introduction to Urban Planning*, Anthony J. Catanese and James C. Snyder, editors. It has a collection of informative articles that are easy to read. More recent books that provide some nice

overview concepts are Ernest R. Alexander's *Approaches to Planning, Introducing Current Planning Theories, Concepts and Issues;* Jay M. Stein's (editor) *Classic Readings in Urban Planning*; Edward J. Kaiser, et al in *Urban Land Use Planning*, and *Planning in the Public domain: From Knowledge to Action*, by John Friedman.

A fair number of books have been written specifically about water resources planning. Some of the better ones were written during the 1970s and 1980s including the following:

Alvin Goodman's *Principles of Water Resources Planning*
Otto Helweg's *Water Resources Planning and Management*
David Major's *Multi Objective Water Resources Planning*
Jim Mulder, et al's *Integrating Water Resources and Land Use Planning*
Margaret Petersen's *Water Resources Planning and Development*.

You can't go wrong with these for starters. For something more recent we suggest Jim Heaney's article, "New Directions in Water Resources Planning and Management," which appeared in the Autumn 1993 edition of *Water Resources*.